Female mammals, including women, are exposed to endocrine disrupting chemicals (EDCs) on a daily basis. This is of concern because many EDCs inhibit ovarian follicle growth and steroidogenesis, processes that are critical for maintaining female fertility. This presentation will focus on the effects EDCs known as phthalates on ovarian follicle growth, steroidogenesis, and female fertility. Phthalates are of interest because they are ubiquitous synthetic chemicals used as plasticizers and stabilizers in a myriad of consumer products, including everything from shower curtains to children’s toys to cosmetics and personal care products such as perfumes, nail polish, deodorants, and lotions. Phthalates are also used in pesticides, wood finishes, adhesives, solvents, lubricants, defoaming agents, and in medical devices including tubing, blood bags, surgical gloves, and dialysis equipment. Our data indicate that phthalates adversely affect ovarian follicle growth, steroidogenesis, and female fertility. Further, our results indicate that some of the effects of phthalates on female reproduction may be transgenerational in nature. These findings have increased our understanding of the mechanisms by which EDCs cause female reproductive toxicity. This information eventually may lead to the development of novel targets for the prevention or treatment of infertility induced by EDCs.